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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,314	09/30/2003	Gary Leonard Skibinski	02AB153/YOD ALBR:0109	5340

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EXAMINER	
MAI, ANH T	

ART UNIT	PAPER NUMBER
2832	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,314	SKIBINSKI, GARY LEONARD	
	Examiner	Art Unit	
	Anh T. Mai	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Koike [JP 11-195533].

Koike discloses a modular enclosure SMD 21a having a mounting surface 23 extending in a plane; inductor coil 5 wound about a central axis generally parallel to the mounting surface; a plurality of leads 3b,3c electrically coupled to the inductor coil and accessible from the modular enclosure; the enclosure is configured for mounting adjacent to similar modular inductor [figures 1-8; abstract].

With respect to claim 4, Koike discloses a plurality of generally flat external surfaces including side surfaces adjacent to the mounting surface, and wherein the mounting surfaces has a greater surfaces area than any one of the side surfaces [see the drawing].

With respect to claim 7, Koike discloses the leads include conductive pads as shown in figure 4.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike in view of Beihoff et al. [2003/0133257A1].

Koike discloses the claimed invention except for the enclosure being mounted on liquid cooled base.

Beihoff, however, discloses a modular power converter having fluid cooled support 12 wherein coolant is routed in/out 22, 24 to extract heat from circuit 14 [figures 1-2; para 0052].

Because Koike and Beihoff are both from the same field of endeavor, the thermal base as disclosed by Beihoff would have been recognized as pertinent art of Koike.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the inductor module as disclosed by Koike, mounted on liquid-cool base, as disclosed by Beihoff for the purpose removing heat from the inductor.

With respect to claim 3, Koike does not disclose a generally oblong cross section inductor. It would have been obvious to have an oblong cross section inductor for the purpose of facilitate the size of the inductor module. *In re Dailey, 357 F.2d 669, 149* USPQ 47 (CCPA 1966)

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike in view ol Liu et al. [2004/0239467].

Koike discloses the claimed invention except for the terminal being a plug-in type. Liu discloses the plug-in terminals 225-1 to 225-6 [figures 3D-E; para 001]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide plug-in type terminals as taught by Liu to Koike. The motivation would

have been to facilitate the insertion into pin holes. Therefore, it would have been obvious to combine Liu with Koike.

With respect to claim 7, figure 1A of Liu shows the terminals including pads 20, 22 (para 005).

6. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike in view of Jacobson et al. [6856283].

Koike discloses the claimed invention except for the enclosure having a current sensor/ground fault sensor.

Jacobson, however, discloses an AC/DC converter 110-1 having fault detection circuit 206-1 and capacitor bank 120 [claim 6, figures 1 and 5].

Because Koike and Jacobson are both from the same field of endeavor, the current sensor as disclosed by Jacobson would have been recognized as pertinent art of Koike.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the inductor module as disclosed by Koike, with a current sensor, and a capacitor as disclosed by Jacobson for the purpose of detecting and isolate ground faults [col 10, lines 34-39] and providing power when the loads drop below the constant voltage regulation point set [col 5, lines 64-66].

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koike.

Koike discloses the claimed invention except for a second inductor coil wound within enclosure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to add a second inductor coil to the enclosure, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 MPEP 2144.04

8. Claims 13, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike in view of Jacobson et al.

Koike discloses a modular enclosure SMD 21a having a mounting surface 23 extending in a plane; 3 modular inductors 5, each wound about a central axis generally parallel to the mounting surface and configured for electrical connection to a respective phase; a plurality of leads 3b,3c [figures 1-8; abstract].

Koike discloses the claimed invention except for the enclosure having a current sensor/ground fault sensor.

Jacobson, however, discloses an AC/DC converter 110-1 having fault detection circuit 206-1 and capacitor bank 120 [claim 6, figures 1 and 5].

Because Koike and Jacobson are both from the same field of endeavor, the current sensor as disclosed by Jacobson would have been recognized as pertinent art of Koika.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the inductor module as disclosed by Koike, with a current sensor, and a capacitor as disclosed by Jacobson for the purpose of detecting and isolate ground faults [col 10, lines 34-39].

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koike in view of Jacobson et al. as applied in claim 13 above and further in view of Beihoff et al.

Koike discloses the claimed invention except for the enclosure being mounted on liquid cooled base.

Beihoff, however, discloses a modular power converter having fluid cooled support 12 wherein coolant is routed in/out 22, 24 to extract heat from circuit 14 [figures 1-2; para 0052].

Because Koike and Beihoff are both from the same field of endeavor, the thermal base as disclosed by Beihoff would have been recognized as pertinent art of Koike.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the inductor module as disclosed by Koike, mounted on liquid-cool base, as disclosed by Beihoff for the purpose removing heat from the inductor.

10. Claims 17-18, 20 are rejected under 35 U.S.C. rejected under 35 U.S.C. 103(a) as being unpatentable over Kojori [6850426] in view of Koike.

Kojori discloses a power converter circuit 3 configured to convert power circuit to three phase outgoing power; a modular inductor assembly 1 configured to be coupled between the circuit and a source of electrical power 101, a current sensor 102 disposed in the enclosure and configured to sense current through the inductor coil Lr [figure 1C; col 10, lines 34-46].

Kojori discloses the claimed invention except for inductor assembly of a modular enclosure having mounting surface with inductor coil wound about central axis.

Koike discloses a modular enclosure SMD 21a having a mounting surface 23 extending in a plane; three inductor coil 5 wound about a central axis generally parallel to the mounting surface; a plurality of leads 3b,3c electrically coupled to the inductor coil and accessible from the modular enclosure [figures 1-8; abstract].

Because Koike and Kojori are both from the same field of endeavor, inductor assembly as disclosed by Koike would have been recognized as pertinent art of Kajori.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct power converter assembly, as disclosed by Kojori, inductor assembly, as disclosed by Koike for the purpose providing SMD type noiseless coils [abstract].

With respect to claim 20, figures 5A-B of Kojori shows the input/output filter of the power converter having first set of three inductor 1102 each connected to one lead with one phase of power source and other connected to capacitors 1104, second set of inductor 1106 connecting to leads to the input side of converter [figure 5A; col 12, lines 49-61].

11. Claims 19 and 21 are rejected under 35 U.S.C. rejected under 35 U.S.C. 103(a) as being unpatentable over Kojori in view of Koike as applied in claim 18 above and further in view of Beihoff

Kojori in view of Koike discloses the claimed invention [see rejection of claims 17-18] except for the enclosure being mounted on liquid cooled base.

Beihoff, however, discloses a modular power converter having fluid cooled support 12 wherein coolant is routed in/out 22, 24 to extract heat from circuit 14 [figures 1-2; para 0052].

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the inductor module as disclosed by Kojori in view of Koike, mounted on liquid-cool base, as disclosed by Beihoff for the purpose removing heat from the inductor.

Response to Arguments

12. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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